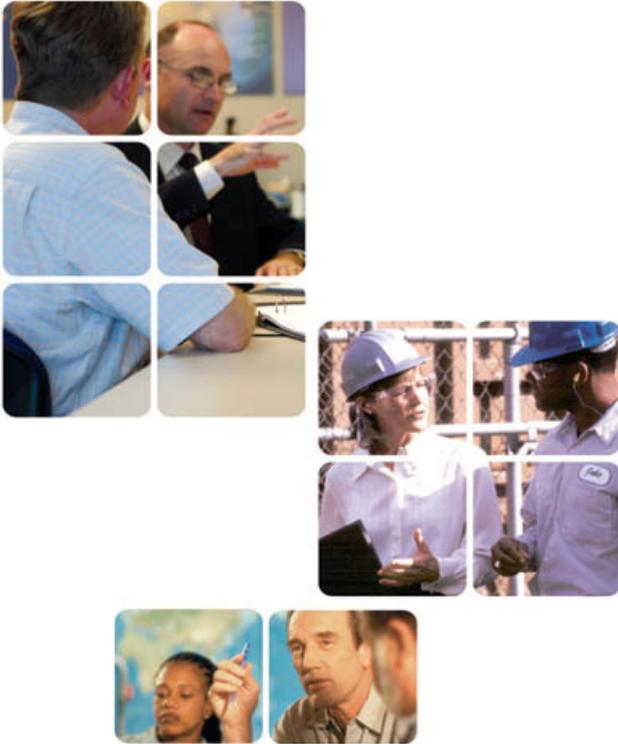


Organizational Culture Change: NASA after *Columbia* and Lessons for Healthcare



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Objectives

- Examine a culture change model, experience and evidence from leading industries outside of health care
- Discuss principles and processes for introducing and managing organizational culture change
- Describe NASA's approach to safety culture transformation following the Columbia Accident

Problem Statement

The Columbia Accident Investigation Board's view of organizational causes of the accident:

1. Barriers prevent effective communication of critical safety information and stifled professional differences of opinion
2. Failure to recognize that decision-making was inappropriately influenced by past success
3. Acceptance of decision-making processes that operated outside of the organization's rules

Leadership

Organizational Culture

Safety Enabling Elements

- Hazard recognition and mitigation
- Skills, knowledge & training
- Regulations
- Safety improvement mechanisms

Organizational Sustaining Systems

- Accountability
- Selection & development
- Organizational structure
- Performance management
- Employee engagement
- Management systems

Facilities and Equipment

Working Interface

Worker

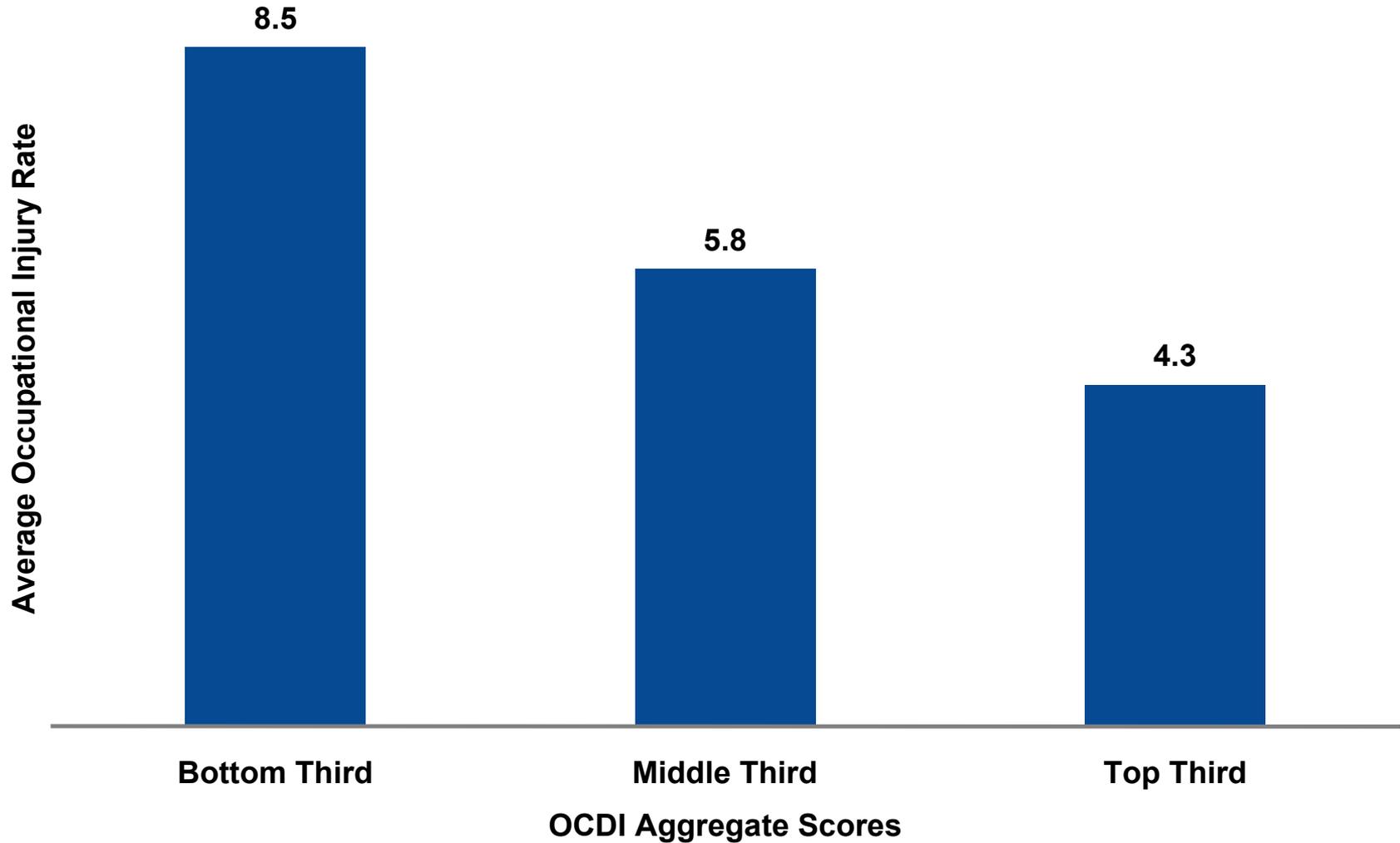
Design

Procedures

Variables predicted by OCDI scales - manufacturing, service, research and development:

1. job performance
2. salary progression
3. career satisfaction
4. follower performance
5. job satisfaction
6. intentions to quit
7. commitment to the organization
8. organizational-citizenship behavior
9. absenteeism

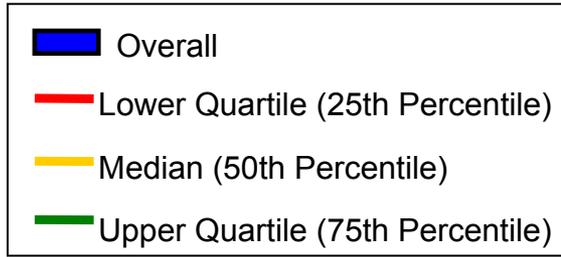
Higher OCDI Scores Predict Lower Injury Rates



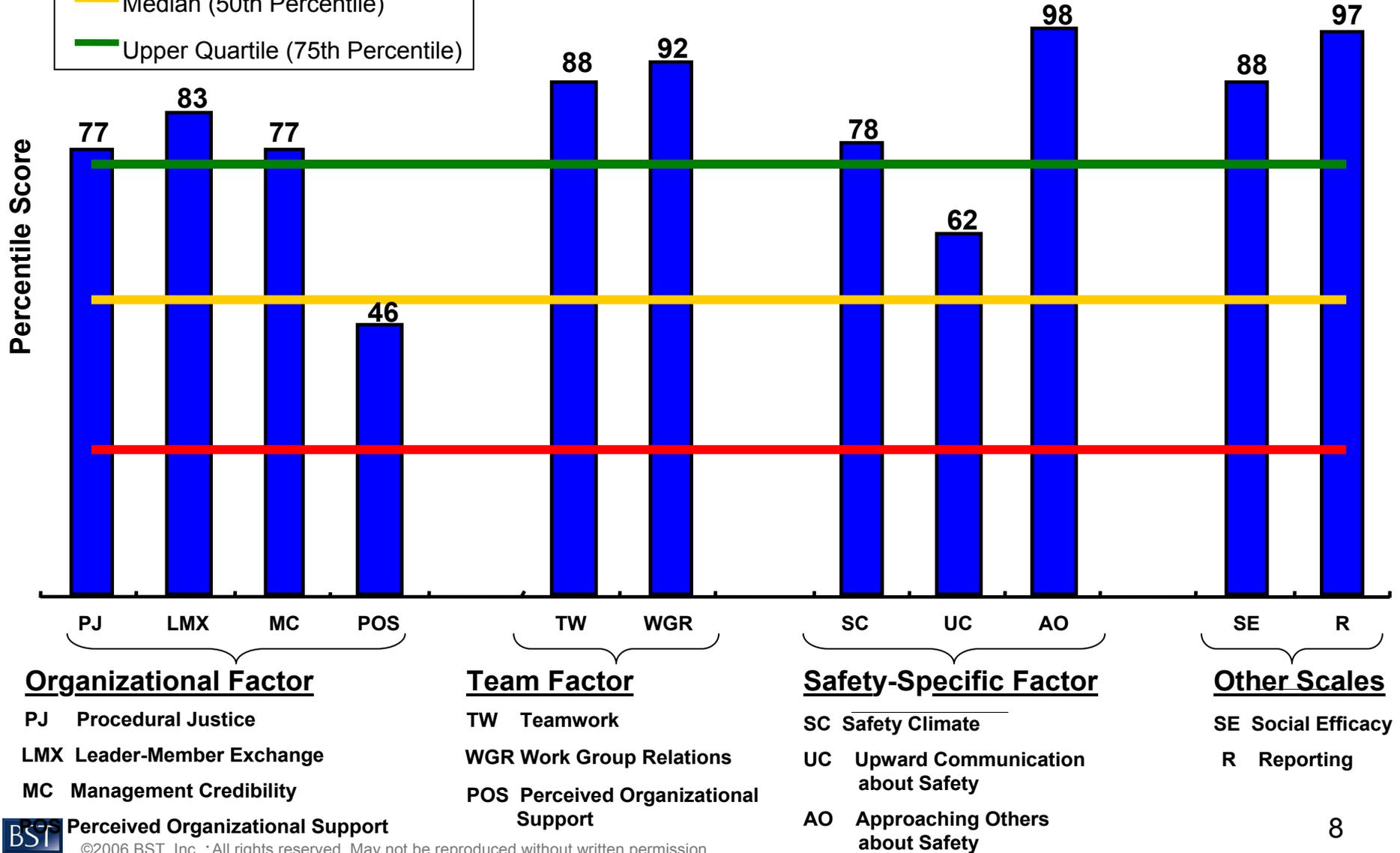
Variables predicted by OCDI scales in the health care industry:

1. Patient urinary tract infections
2. Nurse back injuries
3. Error climate
4. Medication errors
5. Patient satisfaction
6. Nurse job satisfaction
7. Patient perceptions of responsiveness
(Hoffman and Marks, in press)
8. Inter-department cooperation
(Carson and Carson, 2001)
9. Citizenship behavior (Konovsky and Pugh 1994; Coyle-Shapiro 2004)
10. Professionalism (Cohen, 2003)
11. Turnover (Ferris, 1985)
12. Treatment errors (Katz-Navon, T., Naveh, E. & Stern, Z., 2005)

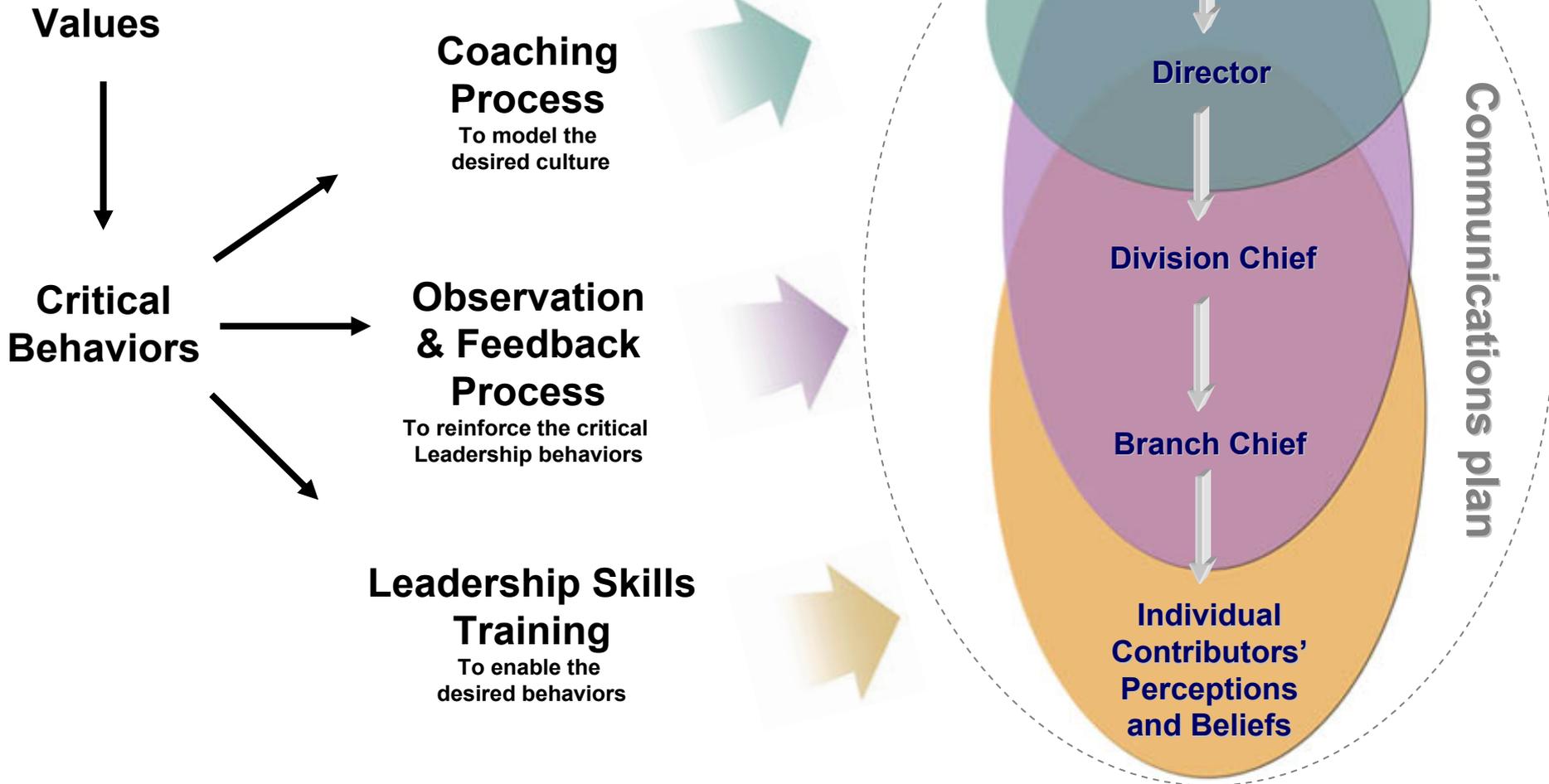
BST Safety Climate & Culture Survey Scales



**NASA Combined
Overall Percentiles by Scale**

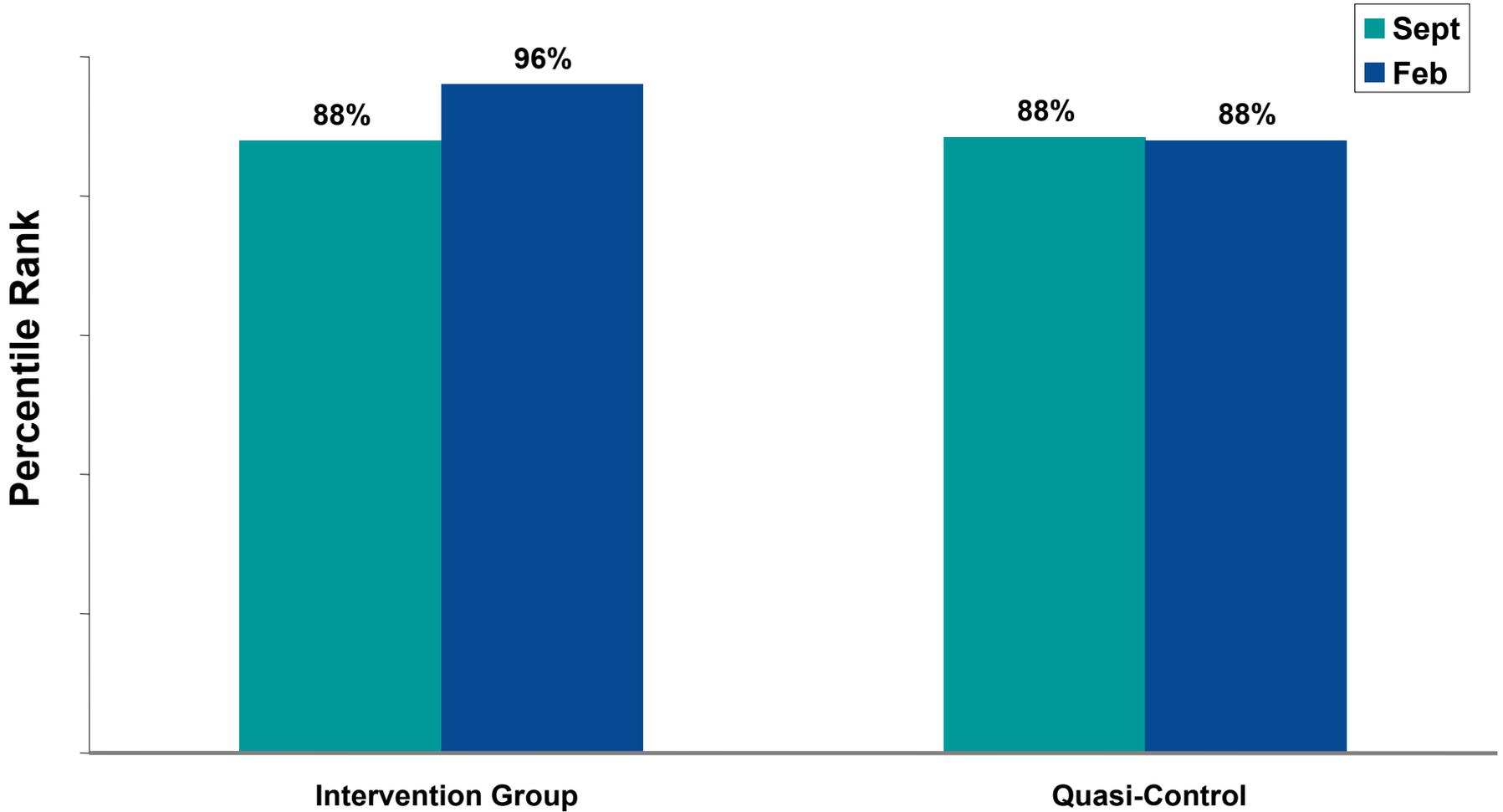


Components of the change process at Centers

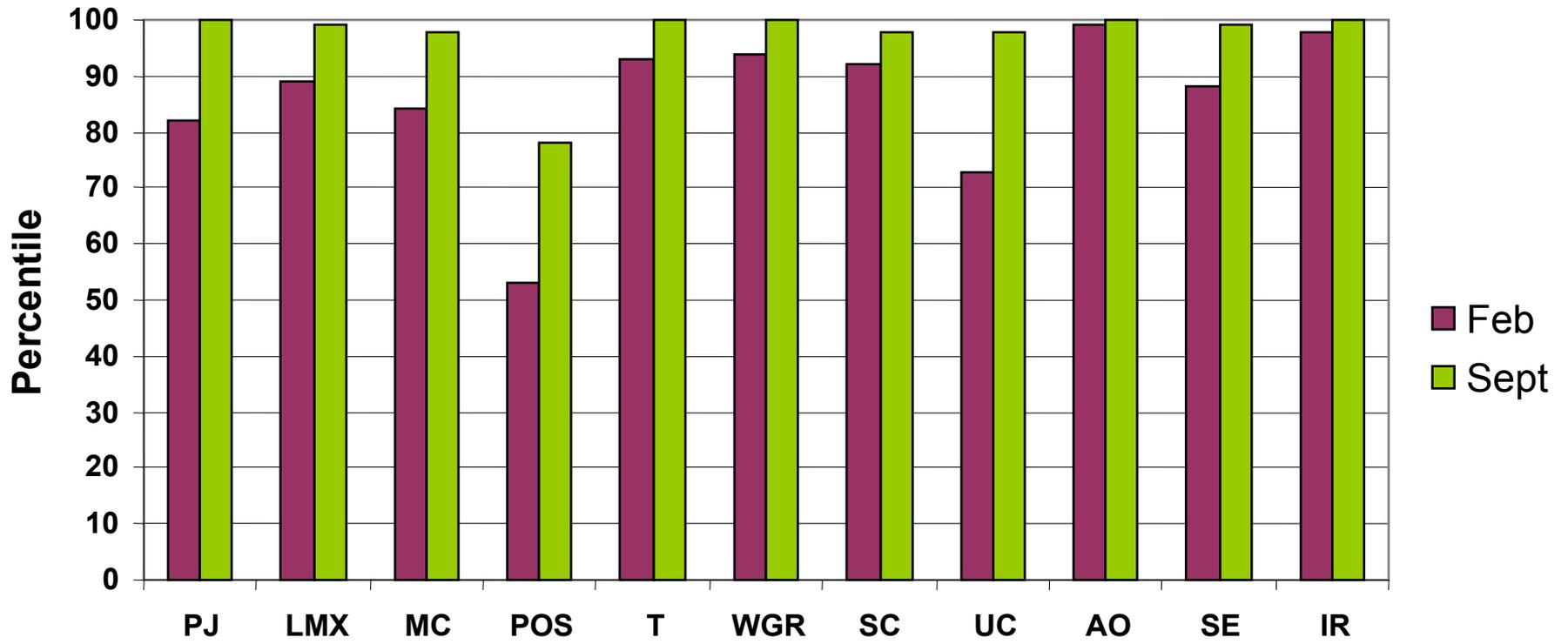


NASA – Measurable Progress After 5 Months

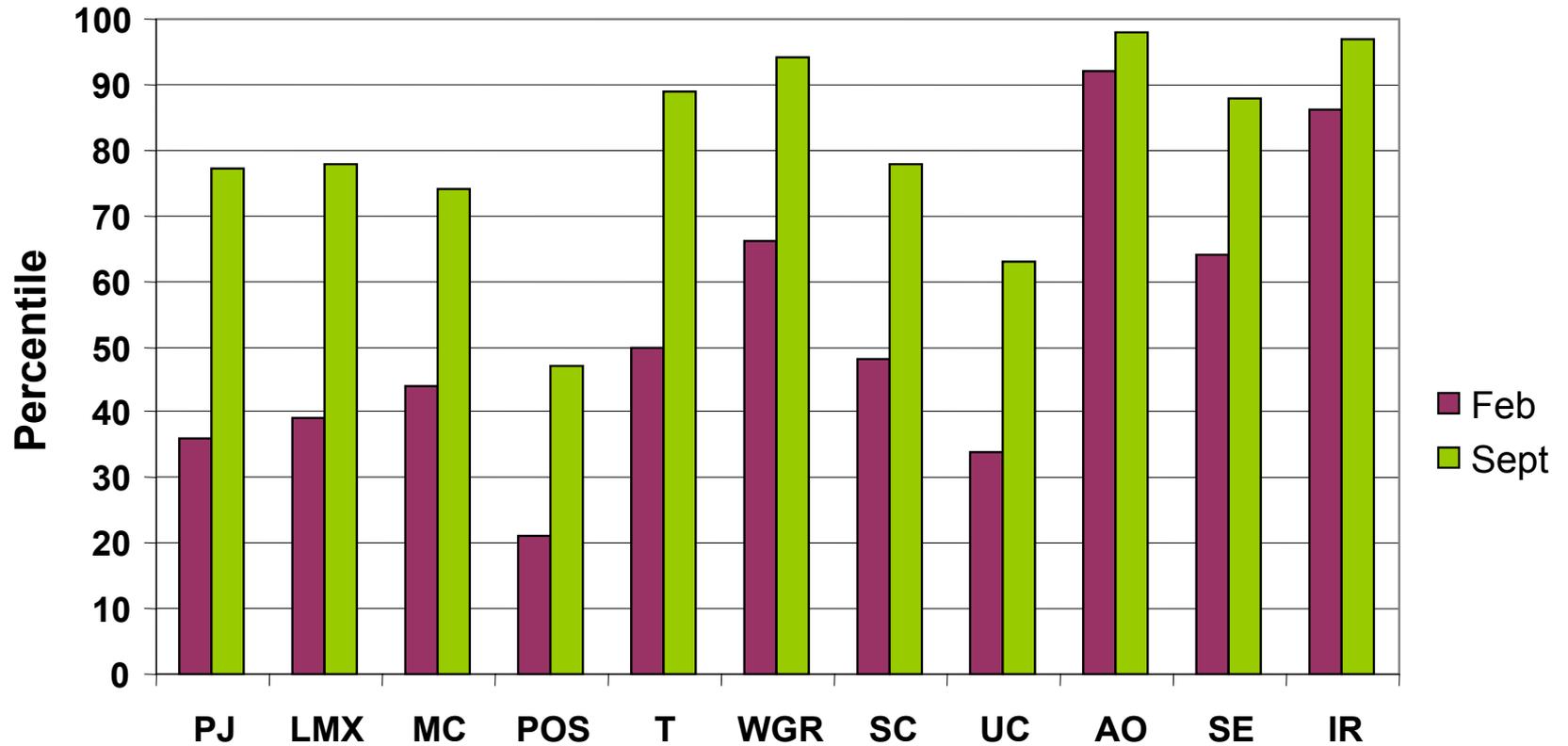
Summary of Change in OCDI Scores



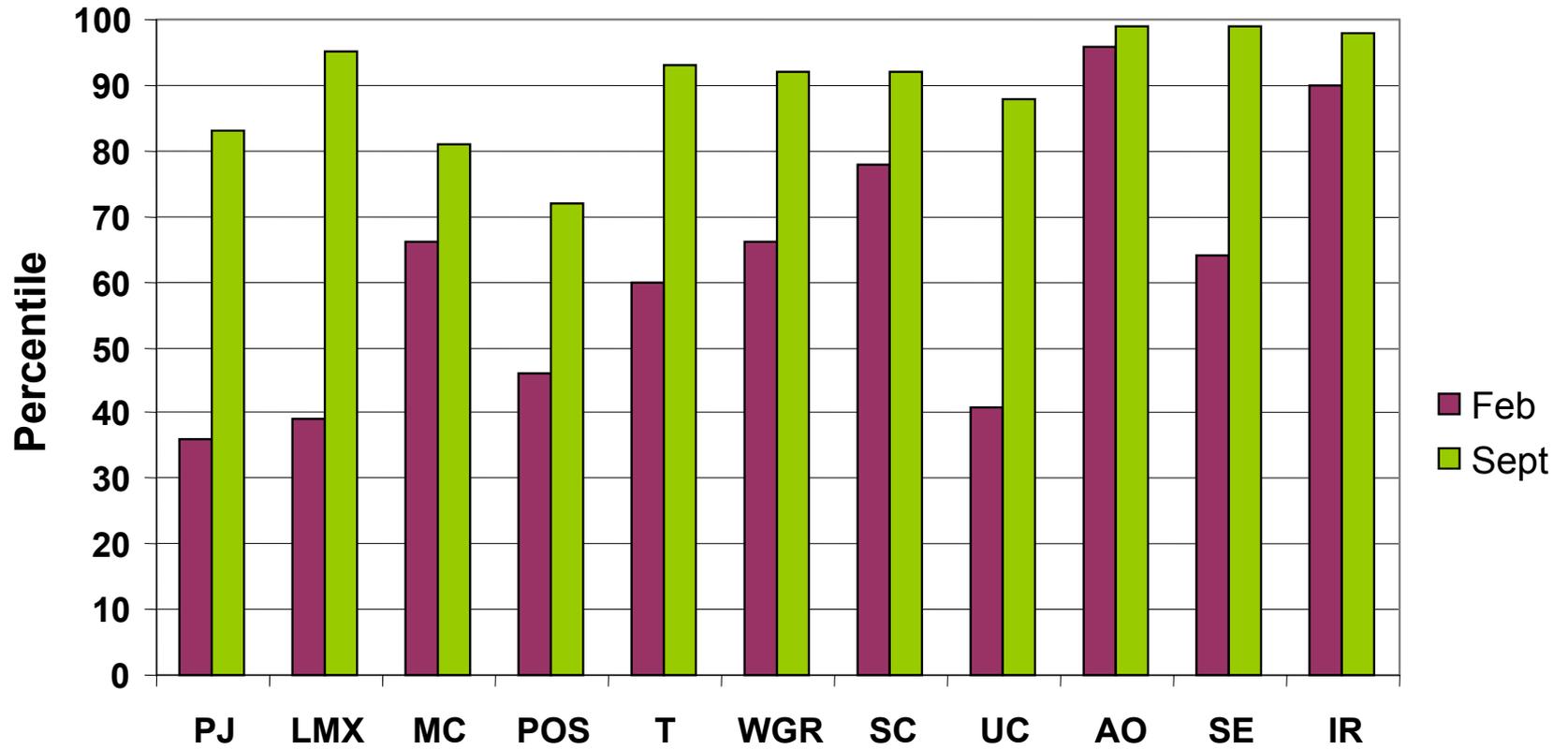
JSC - Engineering & MOD



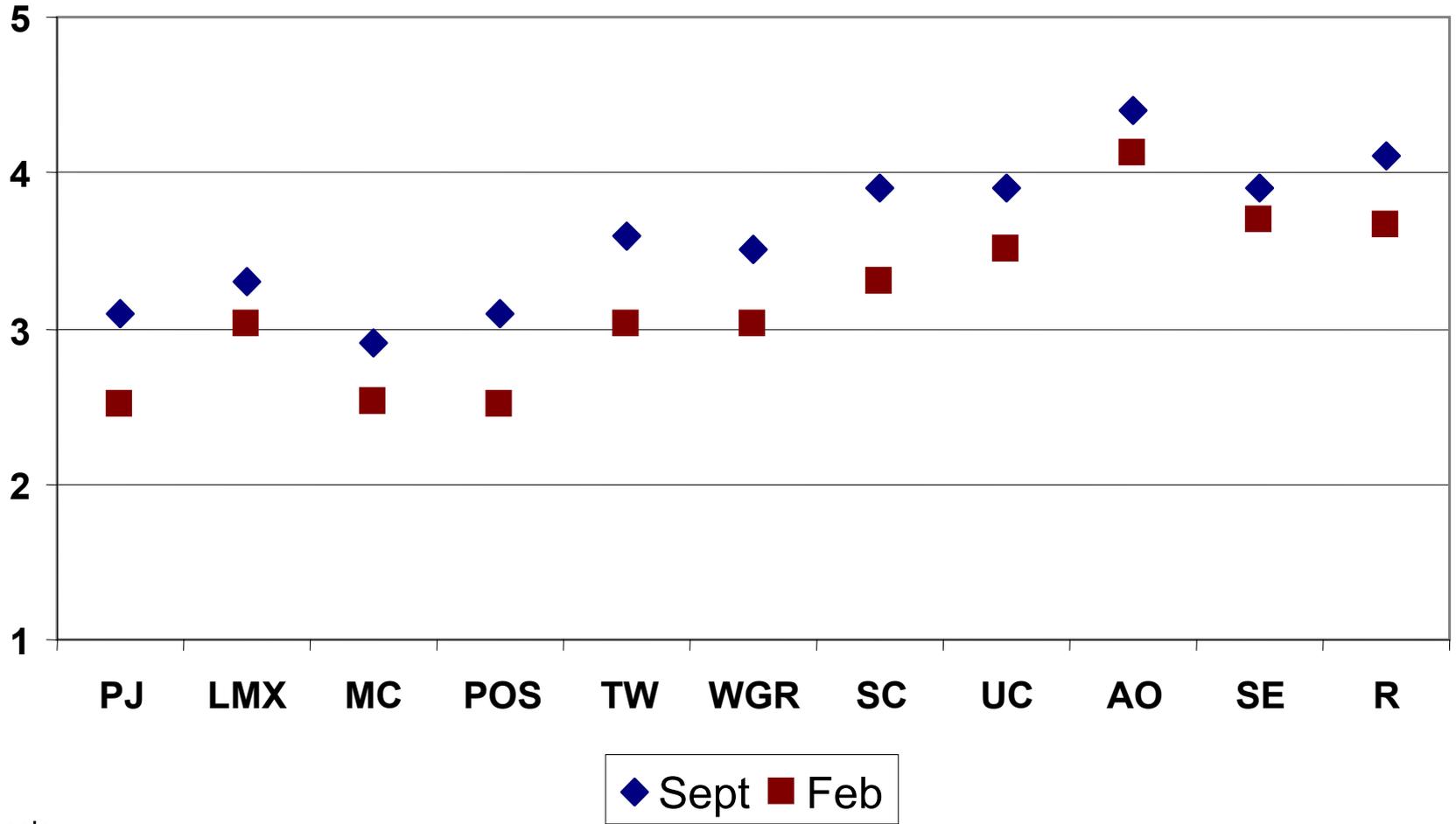
Glenn Research Center



Stennis Research Center



Glenn Research Center



Scale:

5 – Strongly agree

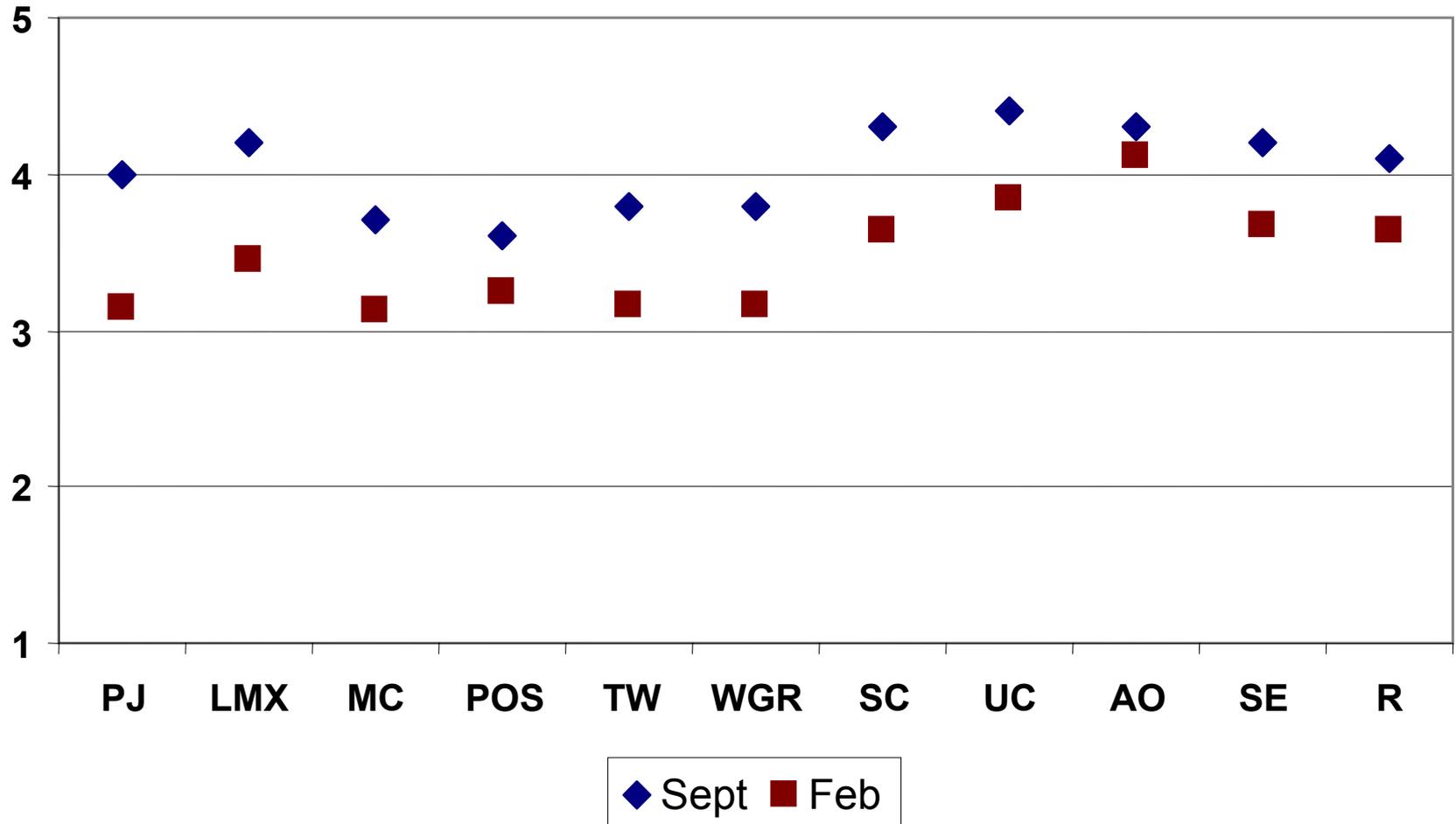
4 – Agree

3 – Neither agree nor disagree

2 – Disagree

1 – Strongly disagree

Stennis Space Center



Scale:

5 – Strongly agree

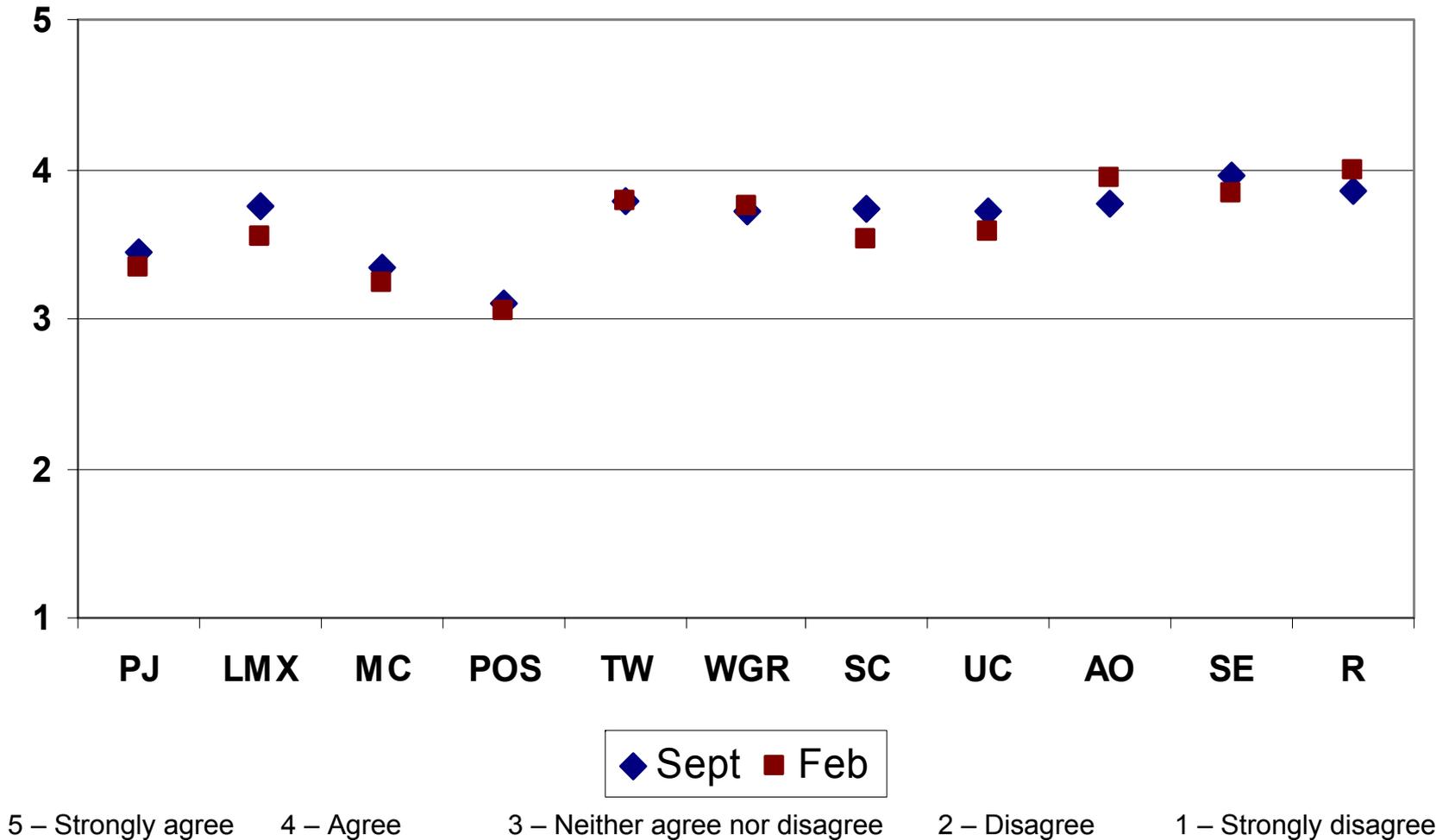
4 – Agree

3 – Neither agree nor disagree

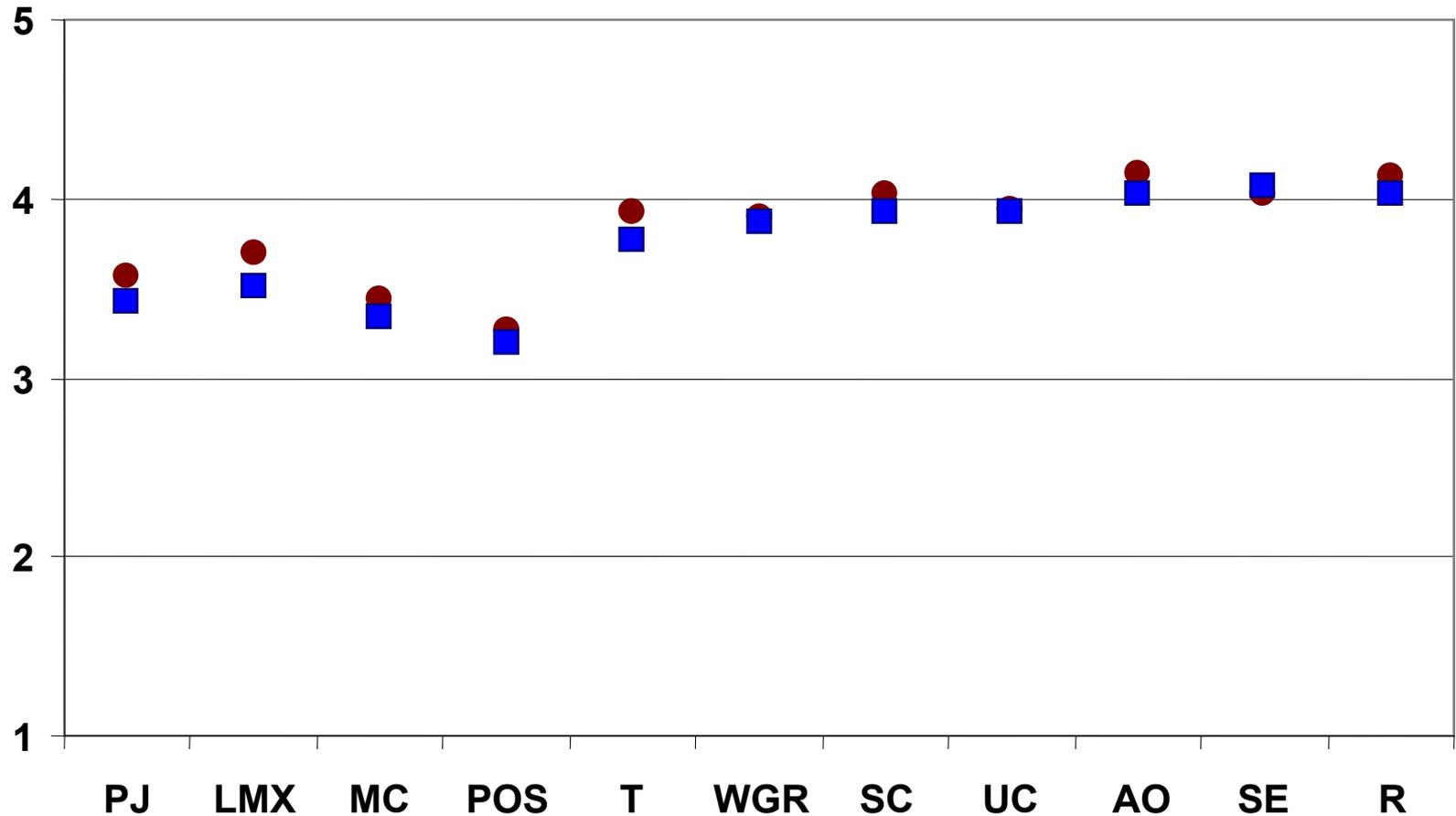
2 – Disagree

1 – Strongly disagree

Goddard Space Flight Center



Kennedy Space Center



Scale:

5 – Strongly agree

4 – Agree

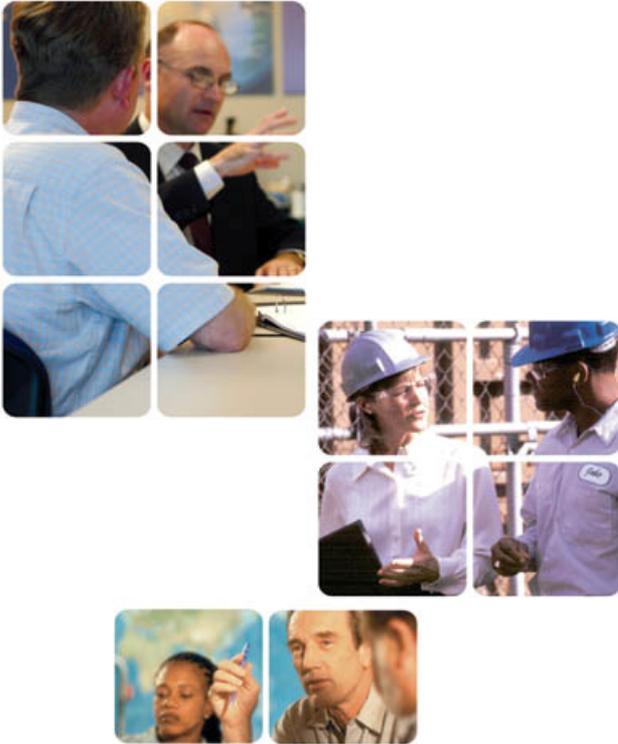
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● Feb - KSC Total ■ Sept - KSC S&MA

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